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DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

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EDITORIAL COMMENT

Brain-Damaging Therapeutics

Among the explanations advanced to account for the success of the various shock methods of therapy in the psychoses, that of actual damage to the brain has not received adequate attention. Cobb, indeed, warned against the use of insulin on account of its deleterious effects. It is known from the work of Ferraro and Jervis, and others, that prolonged insulin coma causes irreversible alterations in the ganglion cells, often distributed over large areas of the cerebral cortex, but concentrated particularly in the association areas. Furthermore, examination of cases recovering after intensive insulin therapy has yielded many examples of "organic" defects in the thinking processes. Recently, however, Wortis and Lambert, in a series of cases of prolonged insulin coma, reported a surprising percentage of recovery from the psychotic state.

The theory that insulin acts through withdrawal from the blood of the sugar essential for neural activity has been well substantiated through the work of Himwich. There comes a point in the process, however, where even the injection of large quantities of glucose cannot bring about a reversal of the coma. Then, according to Wortis and Lambert, the administration of whole blood may bring about rapid awakening, but with the schizophrenic process replaced by an "organic" one that may last for a longer or shorter period.

Whitehead and Neubürger find that metrazol shock therapy brings about changes somewhat resembling those in hyperinsulinism and it is well known that the administration of repeated shocks, especially if they occur close together, leads rapidly to confusion, forgetfulness, and disorientation. Probably, the convulsions bring about damaging but reversible changes in the brain, since metrazol has no effect upon the metabolism of brain cortex in vitro, and since non-convulsive doses of metrazol seem merely to alarm the patient without otherwise influencing his psychosis.

Before the shock methods were introduced, occasional satisfactory therapeutic results were obtained by the use of barbital narcosis, sodium amytal injections, and carbon dioxide inhalations. All of these substances have been found to reduce the oxidative processes in brain tissue. Most spectacular was the original observation of Lorenz and Loevenhart that, upon intravenous injection of sodium cyanide into a catatonic patient, the individual awakened from his trance-like state and talked for the first time in months.

All of the above-mentioned methods are damaging to the brain, but for the most part, the damage is either slight or temporary. The apparent paradox develops, however, that the greater the damage, the more likely the remission of psychotic symptoms. Surpassing the shock methods in terms of demonstrable injury is the Egas Moniz operation of prefrontal lobotomy where the subcortical nerve fibers are destroyed surgically. Immediate arousal from catatonic and depressive states has been reported, and the results are often permanent.

It has been said that if we don't think correctly, it is because we haven't "brains enough". Maybe it will be shown that a mentally ill patient can think more clearly and more constructively with less brain in actual operation.

WALTER FREEMAN, M.D.
Washington, D. C.

Treatment of Mental Disorders with Electrically Induced Convulsions*

VICTOR E. GONDA, M.D.
Chicago, Illinois

Dr. Gonda received his Doctorate of Medicine degree from the Royal University of Sciences, Budapest, Hungary in 1911. He was Head of the Hospital for Shell-shocked Veterans during World War I, 1914 to 1918. From 1925 to 1930 he was Instructor and Associate in Neuropsychiatry at Rush Medical College. At present, he is Attending Neurologist at Cook County Hospital, Clinical Professor in Neurology at the Loyola University School of Medicine and a member of the faculty of Loyola Postgraduate School. Dr. Gonda is a Diplomate of the American Board of Neurology and Psychiatry, a member of the Central Neuropsychiatric Association and is Past-president of the Chicago Neurological Society. He has published numerous works on Electric Shock Treatment in the Hungarian medical literature.

For centuries it has been observed that severe emotional and profound physical stimuli are able to bring some mentally ill patients back into contact with their environment. In a crude and haphazard way, such stimuli had purposely been administered with the intention of benefiting patients. Their use, however, was not followed up methodically until their efficacy was "rediscovered" at a much later date. We must, then, not be surprised to find that whenever an epoch-making discovery is introduced to help those suffering from mental disorders, it is quite easy to prove that this discovery is not new. As an illustration of the above statement, I should like to mention that long before Wagner-Jauregg introduced his fever treatment, Belhomme,[1] as far back as 1847, observed that mental diseases improve by natural fevers, and that in 1865 Rosenblum,[2] a Russian physician, according to Oks,[2] systematically inoculated mental patients with fever-producing diseases and thereby accomplished some cures.

Now that the so-called shock treatment of the present time is associated with more and more hopeful management and outcome of treatment of patients suffering from mental disorders, thanks to insulin (Sakel[3]) and metrazol (Meduna[4]), we can find proof that an herb, named hellebore, was used in the treatment of mental disease several hundred years ago. In 1755 Auenbrugger observed four patients who suffered from "mania" with "periodic raving madness" and who were treated with hellebore. The reactions which he described were, among others, a combination of coma and generalized convulsions, i.e., a combination of the reactions to insulin and metrazol. And what is even more remarkable, the patients recovered.

When Meduna,[5] on inductive theoretic considerations, sought for a convulsant to cure schizophrenia, and before he hit upon metrazol, he employed camphor. Paracelsus (1490-1541) employed camphor for the cure of insanity. Moreover, during the second half of the 18th century, camphor was generally and systematically used throughout Europe for the same general purpose. Gradually its use was discontinued and forgotten without any obvious reason. I think, along with many others, that this trend should be kept in mind since suggestions are being made to the effect that the convulsive treatment should be shelved. We must not commit such a mistake.

Because of some untoward side effects which accompany the use of metrazol, many suggestions had been proposed and carried out to guard against these complications. Various efforts were made to guard against fractures sustained during the convulsions, including various sedatives administered before the onset of the attack, various types of restraints, the use of curare, preconvulsive spinal anesthesia, etc. Various less active drugs were recommended, such as ammonium chloride, picrotoxin, acetylcholine, guanidine, and others, but none of them seemed to give as favorable results as were obtained with metrazol. However, the administration of metrazol resulted not only in untoward physical complications, but gave rise also to mental anguish, which in some cases became so marked as to make the treatment very unpleasant for the patient, and oftentimes even prevented us from continuing the treatment.

It is little wonder, therefore, that we had to look for a better method; one that produced at least the same good results as metrazol; one that did not give rise to the untoward complications of metrazol; one that could be carried out even more easily than

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by intravenous injections; one that could be applied with more uniformity as to the intensity and duration of the treatment. With the above requirements in mind, Bini[6] started a search for a method which would comply with these postulates.

Among the countless agents which have been employed in the attempted treatment of mental disease, was electricity. As soon as it was harnessed, an attempt was made to utilize it in the treatment of the mentally unbalanced. The results were discouraging in the true psychoses, but in the psychoneuroses the story was entirely different. One has only to recall the almost unbelievably good results of Kaufmann[7] with the use of electricity in the treatment of the war neuroses, or the even better results obtained with the author's[8-9] modification of this method. It has been a common interpretation that the electricity acted in a purely "suggestive" manner in these cases. If, at that time, one could have had the temerity to suggest that the electricity acted as an agent to reverse reversible changes in the nervous system, or to create biochemic changes, he would have been called unscientific. In view of the latest developments regarding electrically induced convulsions, we may soon have to revise our conceptions on this important question.

Following some preliminary work by various investigators towards the end of the nineteenth century, Leduc[10] was successful, in 1902, in producing stupor and even general anesthesia with electricity. In 1903, Zimmerman and Dimier, and after them many others, succeeded in causing epileptiform convulsions in animals with electric stimulation. In their footsteps, others were able to produce at will general anesthesia, katatonic states and convulsions, either by using different kinds of electric current, by changing the intensity, or by placing the electrodes on various regions of the body.

Bini, in his attempt to substitute an electric method for the pharmacologic shock therapy, started with the method originated by Viale, using alternating current of 120 volts, placing one electrode into the mouth and the other into the rectum of the animal, and having the current flow for 1/20 - 1/15 of a second. This method regularly produced a severe epileptiform convulsion, but also caused severe damage to the nervous system. Bini, however, was not daunted; he carried on with great perseverance until he found the current which produced convulsions in animals without causing damage to their nervous system. After these experiments, he collaborated with Cerletti[11] and together they applied this current to human beings and reported their first results in May, 1938, at the meeting of the Medical Academy in Rome. At that time, they could report only a few cases treated with electroshock, which was the name they gave to their technic. Their belief was that the therapeutic efficacy of the new method of treatment was at least as good as that of metrazol, but without the disagreable subjective and objective complications so often encountered with the latter.

The method of provoking convulsions with electricity for the treatment of mental diseases soon spread throughout Italy. England adopted it promptly, and Holland followed. More and more favorable results were reported.

In undertaking experiments and treatment with this new method, I procured an original Italian apparatus instead of having an instrument made according to the data collected from the literature. After preliminary animal experiments convinced me that there were no unfavorable complications, I administered treatments with it on patients suffering from schizophrenia, manic-depressive and involutional psychosis.

The Apparatus

The apparatus which we use in inducing convulsions is of fairly simple construction, while the control panel from which the physician operates the machine is even more simplified.*

Preparation of the Patient

The patient should fast for at least twelve hours before, and, if possible, should be given no sedative for at least twenty-four hours before treatment. The bladder should be emptied immediately before treatment is begun. It is, of course, understood that the patient undergoes a careful general physical examination, laboratory tests (urinalysis, etc.) and,

* There are at present so many different apparatuses in use that it does not seem necessary to describe any one in detail.

if indicated, an electrocardiographic examination.

Active tuberculosis, decompensated heart and kidney disease, acute infectious diseases and other febrile states are the most important contraindications. Patients suffering from severe thyrotoxicosis must not be subjected to convulsive treatment. It is injudicious to thus treat patients who have been for long bedridden, and whose bones for this reason have become atrophied. Pronounced curvatures of the spine constitute contraindications. Catamenia is not an absolute contraindication.

The indications for the use of electrically induced convulsions are the same as for the other convulsant treatments.

At the beginning of our experiments, in order to determine the potential and thus to regulate in advance the milliamperage, the resistance to electricity of each patient's head was measured. This was believed to be necessary since, theoretically, an individual having large resistance would need a greater amount of current. However, it has been clinically found that when the current actually flows the effective resistance range is only about 400 to 600 ohms—regardless of the original resistance. Accordingly, we have dispensed with the procedure of measuring the electric resistance, and thereby simplified the procedure.

Caffeine sodium benzoate, or another stimulant, should be ready in a hypodermic form in case of emergency. One assistant is necessary during, and for a few minutes after, the treatment.

Technic

The patient is clothed in a light weight, loosely fitting undergarment. To prevent injury to the vertebrae he is placed in bed with a blanket-covered firm wooden base placed under his back. This wooden base is merely a stave from a large barrel, and is so placed that the maximum convexity is under the middorsal spine. This hyperextension separates the anterior vertebral edges, which are most vulnerable to compression injuries.

Injuries to other bones, except those weakened by disuse atrophy, do not occur because the severity of the muscle spasm, and especially the movements in the joints, are less than in a metrazol convulsion and insufficient to cause fracture of healthy bones.

The temples and adjoining hair are moistened with saturated saline solution and are covered with a flat, round cotton pad previously soaked in the some solution. Upon this pad, which is slightly larger than the electrode, the electrodes are placed with firm pressure. They are three centimeters in diameter. Some workers advise shaving of the hair, but we have found that this is not necessary if the above method is used. It is, however, necessary to remove hairpins or any other metal-containing objects from the hair.

A firm, gauze-covered rubber gag is placed between the teeth of the patient before the treatment starts, to prevent him from biting his tongue and to allow a passageway for air and the exit of saliva.

The machine is connected to the source of electric current at the bedside. This source is a 50 or 60 cycle, 110-120 volt alternating type of current. This is the most convenient type of current, and if it is properly applied, will always elicit a convulsion. The potential is adjusted to 90 volts, which is about the minimum necessary to produce the required convulsant current. The timer is set for the period intended for the current to flow, this being on the average 1/10 to 2/10 of a second. The button which actually initiates the flow of current to the brain is then pressed and held down for the period that the timer has been set. The time, the potential, and the resistance of the patient's head produce the necessary milliamperage. A minimum of 250 milliamperes is necessary for the production of a convulsion. According to calculations, less than 10 per cent of this amount actually reaches the brain. Frequently, we have to apply more than 250 milliamperes to elicit a convulsion. It has been proven that the 800 milliampere limit need never be reached for effectiveness.

Should the initially applied current not be strong enough to elicit a full convulsion, but merely cause a small spell, the voltage is increased by increments of 5 or preferably 10 volts. The increased dosage of current may be applied as soon as the patient shows signs of the return of consciousness and has opened his eyes. This does not take more than a minute or two. If, after the voltage has been increased, the convulsion still does not de-

velop, the time limit allotted is lengthened by 1/10 or 2/10 of a second. If this still does not suffice, we again increase the voltage (5 or 10 volts), and, if necessary, then again the time (1/10 to 2/10 of a second), proceeding in this manner until a convulsion does develop. By placing the electrodes correctly, we never need more than 150 volts, and lately, by applying the electrodes with more pressure, it has not been necessary to exceed 135 volts. As to the time limit, we never exceed 5/10 of a second. Based upon theoretic considerations, it is advisable to increase the potential rather than the time. There is no harm in eliciting many of these small spells, inasmuch as the patient has no recollection of them. Proceeding this way during the first treatment, we ascertain the voltage and the time necessary for each patient. We note these data and apply the same strength during the second treatment. In almost all cases this same strength is enough to elicit a convulsion in all subsequent treatments. After one becomes better acquainted with the capacity of the apparatus, he is usually able to apply enough milliamperage from the very start for the result desired. The considerable margin of safety present allows the operator to proceed with more assurance and thus to apply the necessary amount of current without too many trial applications. We have always been able to elicit a convulsion at the first treatment. It should be made a rule that a full convulsion should be elicited at the time of the first treatment, also in all subsequent treatments.

The Convulsion

If a current of sufficient intensity reaches the brain, a reaction starts immediately. This reaction is a convulsive seizure which resembles closely that which we observe in the "grand mal" attack of the "idiopathic" epilepsy, and which is milder than the metrazol-produced convulsion, but still is a major epileptiform seizure with all its severe manifestations. A major convulsion is, after all, what we intend to elicit.

If the current is not sufficient for the elicitation of a convulsion, all that will develop will be a momentary loss of consciousness and a very brief, sudden and generalized contraction of the voluntary muscles. This lastly described manifestation is, in all probability, due to stimulation of the motor areas. We cannot as yet give any explanation for the cause of the unconsciousness.

From the fact that the patient does not experience any pain in his head we must surmise that the loss of consciousness is at least simultaneous with, if it does not precede, the motor manifestations. The current is very painful. I convinced myself of this by applying it to my thigh. The patient, on the other hand, does not experience any pain, of which I assured myself by the following experiment: I was successful in applying such a minimal amount of current to the brain that it did not cause muscular contractions, but unconsciousness only. During this period of unconsciousness the face of the patient becomes pale, he temporarily closes his eyes, and his arms and legs become limp. This symptom complex for all practical purposes resembles a "petit mal" attack. The important fact is that the patient does not recall any painful sensation after this little spell is over.

With the exception of those negligibly few instances where there might be a short latency period, the maximum duration of which is thirty seconds, there is no noticeable period of latency. Upon the application of the current there is an instantaneous muscular contraction and the tonic phase ensues, lasting about 20 to 25 seconds. During this phase, all four extremities become spastically extended; the wrists are extremely flexed; the fingers are clenched, the thumb usually protruding between the index and middle—or between the middle and ring fingers. The big toes frequently assume a dorsiflexed position. In cases previously treated with some other convulsant, instead of extension of the lower extremities, there was usually flexion of the hip and knee joints. We feel that these and some other differences might be caused by variations in the intensity of the current, or by slight differences in the place of application of the electrodes, which in turn means that seemingly different parts of the brain are stimulated by the maximal current and this might cause different external manifestations. The tonic phase is usually interrupted by a few clonic movements, but these and the clonic jerks which regularly follow the tonic phase, lasting 10 -

15 seconds only, are much less severe than those manifested with the other methods. This is the main reason for the expectation that less bone and joint complications will be encountered from the use of electrically induced convulsions, or at least, it will be easier to prevent such complications.

As in the case of metrazol treatment in which more of the drug is needed to elicit a convulsion if the patient has taken some sedative prior to the treatment, so more milliamperage is needed in the electric treatment whenever the patient is under the influence of a sedative.

During the convulsion, the eyeballs are turned upward in the fashion of a conjugate deviation. Near the end of the seizure, the eyes turn in the same fashion laterally and remain in this position for a short while after the convulsion ceases; once in a while they roll over toward the opposite side. Only once did I notice, in a not completely developed attack, that both eyeballs were turned nasally.

The pupils are widely dilated and do not react to light during, and for some time after, the convulsion.

The face, after a temporary pallor, becomes flushed and extremely cyanotic. It is my impression that the cyanosis is more pronounced and of longer duration than with any other kind of treatment. The breathing stops; at the height of the cyanosis a deep inspiration ensues. The change of color of the skin is not limited to the face, but almost always involves the neck and, at times, reaches down to the waist line. The hands, also, become cyanotic. The cyanosis soon disappears. In rare instances pilomotor reaction is observed.

There is, in most cases, a considerable amount of saliva, which at times becomes frothy, drooling from the mouth. To prevent the patient from aspirating the saliva, I made it a rule to turn the patient on his side immediately after the cessation of the convulsion. Patients who have not emptied their bladder before the treatment often have involuntary urination. Some patients have a loss of spermatic fluid. Thus far I have never encountered involuntary defecation or vomiting. Even those patients who regularly vomited after metrazol do not vomit after the electrically induced convulsions.

As we are not dealing with a struggling patient, one assistant is all we need during the treatment and afterwards. The assistant supports the lower jaw with one hand, and with his free forearm presses the shoulders of the patient down to prevent complications in the jaw and to prevent the shoulders from rising. In this fashion, dislocation of the jaw and anteflexion of the spine are prevented.

Occasionally after a drug-induced convulsion, there occurred a second convulsion unexpectedly. With electrically induced convulsions there is no possibility of this occurring, and indeed, we have never seen one.

The after care is less time—and energy—consuming also. The recovery from the convulsion, as already mentioned, is rapid and complete; when the patient is asked about the preceding episode, he states that he does not recall anything. In fact, there is a retrograde amnesia for the immediate time preceding and an anterograde amnesia for a few minutes following the treatment. Not one patient thus far objected to the continuation of the treatment. Of course, one might meet some psychotic individuals, who would not permit anyone to approach with any instrument, and these patients will not willingly undergo any kind of manipulation. But even this type of patient does not object, and cooperates after the first signs of improvement become apparent.

I have now under treatment a patient suffering from paranoid type of schizophrenia who, undergoing metrazol—narco-sustained—and insulin therapy, objected bitterly to the continuation of the insulin treatment. Without his being aware of it, I initiated electric treatments. Signs of improvement soon set in. One morning he begged me to put the electrodes on his head more frequently, because, as he said, on the days that I did this he felt much better all day.

The duration of the electrically induced convulsions is constant; it never lasts longer than 45 seconds and never less than 35 seconds, from the application of the current to the end of the convulsion, whether 350 milliamperes, i.e., the minimal, or 800 milliamperes, the theoretic maximum, are used. It is a reassuring feeling to know the exact time when the convulsion will terminate.

Two treatments are given weekly. The average number of treatments varies. In cases of depressive phase of manic-depressive

psychosis, where the results as to recovery are the most excellent, five or six treatments were necessary to achieve full remission. It is advisable to watch the patient closely and, if the slightest signs of relapse should appear, to give a few more treatments. In case of schizophrenia, eighteen to twenty and even more convulsions should be elicited, although the first signs of improvement usually appear after the sixth to eight treatment. Sogliani[12] describes cases in which the improvement started only after the thirtieth convulsion and some even later.

Postconvulsive Manifestations

Most of the patients become conscious in about 5 to 10 minutes. They are in a dazed condition for a while, during which time they cannot answer questions logically; some repeat the same utterances several times, and, if let alone, usually fall into a long-lasting sleep. Some become more or less restless. One of my patients, after each treatment, rolled around in the same direction several times before he calmed down. Just as there is complete amnesia to the treatment itself, so there is amnesia to the psychosomatic restlessness which sometimes develops after the convulsion. After regaining consciousness, the majority of patients have a friendly expression and will return the physician's smile.

Some patients complain of hunger after awakening and even ask for food. They do not refuse food if it is offered. This may be because of the fact that the treatment is given on an empty stomach. The animals experimented on ate a hearty meal as soon as five minutes after the convulsion.

For a short time after the convulsion ceases, all the superficial and deep reflexes disappear. The superficial reflexes are soon again elicitable, and the deep reflexes become exaggerated. The corneal reflex reappears before the pupillary reflex can be elicited. So far, I have never failed to elicit a very pronounced ankle clonus; suprapatellar reflexes are commonly elicited, patellar clonus less frequently. Looking routinely for the Babinski sign I most frequently found it as soon as the plantar reflex could be elicited. I seldom could find, in contradistinction to some Italian authors, the dorsiflexion of the big toe with the confirmatory methods of Oppenheim, Chaddock, or Gordon. I did, however, frequently find a prompt dorsiflexion of the big toe and flexion of the knee and hip joint when snapping the distal phalanx of the firmly-grasped second toe: a sign which to my best knowledge has not as yet been described. I had previously noted this sign to be present in many cases of spinal cord lesion and of hemiplegia, in some cases of frontal lobe tumor, and in one case of Friedreich's ataxia. I also found this sign in several cases of amyotrophic lateral sclerosis, where the Babinski sign is so frequently absent. Sometimes, in acute hemiplegia, where no other sign could as yet be demonstrated, this was the only sign which showed the involvement of the upper motor neuron lesion. I thought it appropriate to mention this sign now, in order to call its attention to other observers. I have but seldom missed the Hoffmann sign of the fingers after the electrically induced convulsions. In one case where there was Hoffmann sign existing before the convulsion, it became more marked after the convulsion. There is also a persistent sucking and biting of the mouth gag, and a grasp reflex is also noted occasionally. I have never observed the presence of the Rossolimo sign. The clonus and the pathologic reflexes soon disappear, giving place to the normal reflexes. From these findings, we can conclude that the cortico-spinal neurons and the highest representations of the extrapyramidal motor system are profoundly, although only temporarily, involved.

Results and Comments

Since March 1940, I have treated 40 patients with a total of 612 electrically induced convulsions.* The immediate results are very encouraging. Of 29 schizophrenics, most of whom have suffered from the disease for less than one year, 17 (58.6%) showed complete remission; 6 (20.7%) improved; and 6 (20.7%) did not improve. Three patients suffering from involutional psychosis completely recovered, and have been working continuously since their recovery which took place 11 months ago. Of 8 depressive states, 7 (87.5%) recovered; one, who has been ill

* Since submitting this paper for publication, the number of patients treated has reached 200, the average patient receiving fifteen treatments. This emphasizes the need for adequate treatment in intensity as well as in number of administrations.

for six and a half years, remained unchanged. Of the seven recovered patients one, who only received three electrical convulsive treatments, relapsed soon after leaving the hospital. Of the schizophrenics, one who did not respond to 36 metrazol-induced convulsions, recovered after six electrically induced ones; and two others, who received both metrazol and insulin without results, also recovered with electrically-induced convulsive therapy.

Not sufficient time has elapsed to draw definite conclusions. We must wait until more of the expected relapses occur before making detailed statistical computations. At present, I will rather mention some pertinent data of investigators who started the treatment long before me, and who, therefore, have more material at their disposal.

Cerletti[13] reports results from a series of 3000 convulsions in more than 100 patients, as follows (cited from Kalinowsky):

"In those cases where the duration of the psychosis was less than six months complete recovery was obtained in 80%; the remaining 20% were much improved. The complete recoveries decrease, as in all the other shock treatments, with the increased duration of the disease. In cases of one to three years' duration only a third showed recovery or were much improved. Still older cases show improvement in 50% but never completely recover. Fractures and dislocations never occurred. Cerebral complications or mental sequelae have never been seen during or after the treatment with the two years' application of the method. That there are no anatomical reasons to expect such complications is shown by means of extensive investigations on shock-treated animals. Irreversible cell lesions are found in insulin-treated as well as in cardiazol (metrazol)-treated animals. They are never found in dogs treated with electric convulsion treatment; here only reversible changes such as Nissl's acute cell disease were seen."

Kalinowsky[14] states further from his own experience that by the Cerletti and Bini method accidents can be absolutely excluded. Shepley and McGregor[15] state that in their 200 induced major convulsions neither fracture nor dislocation occurred.

J. A. J. Barnhoorn[16] reports his experiences in 35 cases in which 266 convulsions were provoked, and states that the method seems to be harmless.

Sogliani[17] applied electroshock to 44 patients (26 schizophrenics, 11 depressive states, 4 manic states, and 3 involutional melancholias). Comparing these results with similar patients treated with metrazol, he concludes that the percentage of recoveries is the same in both instances. Complete and partial remissions were obtained in 56 per cent of 44 patients treated with electroshock, and in 55 per cent of 58 patients treated with metrazol, where the patients treated were ill less than one year. In schizophrenics, the number of remissions drops sharply with the chronicity of the disease; in contradistinction to this he reports good results in cases suffering from involutional melancholias for three and four years.

Croce and Cassiano[18] report on cases where, according to the electrocardiogram findings, metrazol would have been contraindicated, but who underwent the electric treatments without complications. They conclude from their findings that the electroshock does not have as harmful an effect on the cardiovascular system as does metrazol. They express the opinion that the electroshock therapy may safely be administered in compensated heart disease.

Borgarello[19] treated fourteen patients, ranging in age from 50 to 65, some of whom suffered from heart disease or arteriosclerosis, with electroshock without encountering any untoward effects.

Broggi[20] after treating 301 cases of different types of psychoses with different methods, comes to the conclusion that the method of electrically induced convulsions should be used in preference to any other type of treatment.

On the other hand, the experience of Fleming[21] should be of great importance as a warning. He reports two cases of compression fracture of dorsal vertebrae among his first twenty cases treated with an English-made electroshock apparatus. We hope that with the above described precautions, such accidents will be avoided.

Admitting that occasionally we will find unfavorable complications,* the above quoted

* I have lately encountered fracture of both humeri in a woman, aged 53, who had been institutionalized for seventeen years. These fractures occured after the elicitation of the third convulsion, but soon healed completely.

data, as well as my own series of cases, show that the results obtained with the electric convulsion treatment emphatically justify the continued use of this method in the treatment of psychoses.

Inasmuch as the electrically induced convulsive treatment is but a modification of the elicitation of Meduna's pharmacologically induced convulsive therapy, and inasmuch as the electric treatment has thus far caused no subjective complaints, while having fewer objective complications than metrazol, we can state that, provided the curative results remain as good as those of metrazol in the hands of competent physicians, we have an important addition to the practice of shock therapy.

One cannot emphasize strongly enough the necessity for following the convulsive treatments with psychotherapy. It is not overstating the case to say that intensive psychotherapy is almost as important as the elicitation of the convulsion itself. It is my firm conviction that our good results on the first patients treated are at least partially due to the more extensive psychotherapy employed. This fact may become a great handicap to our large state institutions where relatively little time can be spent with each individual patient. Group psychotherapy may be of great help in overcoming this handicap.

The electrically induced convulsion treatments should be carried out on hospitalized patients only. Exception to this rule would be allowed when the patient needs the so-called "maintenance" treatment. In such cases, the patient is hospitalized for a few hours only, and may leave the hospital after recovery from the effects of the convulsions is complete. We have had such patients. They come willingly, having no fear of the treatment. This absence of fear answers the old controversial question of whether or not fear contributed anything to the good results of the metrazol therapy. There are opinions for and against the statement that fear was a factor in the improvement. Now we can definitely state that fear has no role in the improvement of the patient. On the contrary, if anything can definitely be stated about the fear reaction, it is that it was in many instances harmful and that it prevented some patients from arriving at a complete cure by forcing the physician to discontinue the treatment.

Clinical observations, investigations in blood physiology and biochemic researches are being carried out on patients treated with electric convulsions. Since I intend to give a more detailed account of these findings elsewhere, I would here merely desire to mention that the average increase in blood sugar amounts to about 50 per cent after the cessation of the convulsion. This figure returns to the initial level in about one-half hour. The white cell count rises 50 to 100 per cent of normal and returns to the original count in 20 to 30 minutes. These data run parallel to the findings observed after metrazol convulsions and correspond to the findings of the European investigators; among these workers may be mentioned Centini and Poggio,[22] who made very extensive studies, including spinal fluid examinations, during electroshock treatment. I have examined the spinal fluid of twelve patients after the cessation of the electrically induced convulsion and did not find red blood cells in any of them.

To determine the source of the blood changes, we began bone marrow examinations through sternal puncture. The cellular constituents of the bone marrow remain the same after the convulsion as they were before it. Thus we have proof that the increase in the white cell count in the blood stream has its origin in the peripheral circulation, as may be squeezed out from various reservoirs such as the spleen, liver, and muscles, and thus thrown into the circulation, to be later withdrawn as the system returns to normalcy.

I deem it of considerable theoretic and practical importance to mention that we have determined the blood sugar and white cell count after the initial "small" convulsions and have found them both to be unchanged.

On the average, the systolic blood pressure rose about 30 per cent, and the diastolic somewhat less, thus creating an increased pulse pressure. In a few instances, both the systolic and diastolic pressures dropped considerably after the initial rise. The pulse rate increases, but we have noticed no arrhythmias. The pulse rate soon returns to the initial rate.

Summary

1. The method of elicitation of electrically induced convulsions for the treatment of

schizophrenia and affective psychoses is described.

2. A description of the electrically induced convulsion is given. Emphasis is placed upon the absence of pain and of fear reactions, in contrast to other methods.

3. Complete absence of pain, and amnesia to the treatment has been confirmed and experimentally substantiated.

4. Opinion is expressed that, since the convulsions are less severe, fewer complications may be expected, and it will be easier to prevent complications.

5. The beneficial results in 40 cases treated with a total of 612 convulsions are shown to compare favorably with the results obtained with other convulsant treatments.

6. The importance of psychotherapy in combination with convulsions is stressed.

Remarks

It is by no means certain that our present apparatus is the best conceivable. I hope that some day we will find a better one, or perhaps even develop an entirely new method, but until that time comes we must, I think, standardize the equipment before we put it into general circulation. Even using the standard apparatus, every physician should first elicit convulsions on experimental animals to become accustomed to the technical details. Furthermore, the physician should, if possible before eliciting convulsions on patients, witness and assist an experienced operator in the administration of electric treatments. And, further, until the electrically induced convulsions prove to be absolutely harmless by the test of time, they should not be used for treating those mental conditions, like mild psychoneuroses, which may be cured by other methods.

Since investigations in the domain of mental disease have been increased to an unprecedented scale by the discovery of metrazol and insulin treatments, it is to be expected that even more numerous researches will be carried out with the more accurate, easily applied and readily measured electric stimulation.

25 East Washington Street.

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Mental Hygiene in a Community

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New Haven, Connecticut, has the distinction of being the birthplace of modern Mental Hygiene. The story of the founding of the Connecticut Society for Mental Hygiene, the first society of its kind in the world, by Clifford W. Beers, a native of New Haven and a graduate of Hillhouse High School and Yale University, has been adequately recorded.* Subsequent developments of national and international growth of mental hygiene have been reported from time to time. These concern the formation of the National (United States) Committee for Mental Hygiene followed by the organization of individual state and local societies in this country; the founding of similar organizations in other nations; the holding of International Congresses of Mental Hygiene in 1930 (in which 52 countries were represented) and 1937, and the establishment of an American Foundation for Mental Hygiene.

However, the subsequent growth of the mental hygiene movement in New Haven has never been adequately recorded. It is the purpose of this paper to give a review of the major historical features and a more detailed account of the present local organization.

Everyone who has some interest in psychiatry and mental hygiene knows that Mr. Beers called to order the first meeting of this original Mental Hygiene Society on May 6, 1908, in the home of Rev. Anson Phelps Stokes, Jr., located at the end of the New Haven Green. (This home is now the Yale Faculty Club.) Other charter members of this original society were: Miss Rebekah Bacon, George M. Beers, Robert A. Beers, James Kingsley Blake, F. S. Curtis, Dr. A. R. Diefendorf, Dr. Gustavus Eliot, William J. Hoggson, Judge A. McC. Mathewson, Dr. H. W. Ring, Dr. Elizabeth G. Spencer, and Rev. Anson Phelps Stokes, Jr.

According to conditions and knowledge of that time, the immediate efforts of this group were concerned with improving the care of patients in the state hospital and the school for the feebleminded. These were also the initial aims of the National Committee for Mental Hygiene, founded a year later through the efforts of Mr. Beers. However, before Mr. Beers turned his attention to nation-wide affairs, people outside of institutions began to consult him personally and by letter about their problems or about their relatives. This was the beginning of the clinical records of the Connecticut Society for Mental Hygiene, which in New Haven now number over 8,700. It is interesting to note that "patient No. 1," who came to Mr. Beers has been followed-up consistently and his history is complete to date. In a way, Mr. Beers has just claim to being considered one of the first psychiatric social workers.

In 1909, as Mr. Beers became more engrossed in National Committee affairs, a social worker who was also a registered nurse was employed by the Connecticut Society for Mental Hygiene. One of her primary tasks was to assist discharged patients from the state hospitals in finding their places in community living. In 1910 the society financed a social worker at one state hospital as a demonstration of what could be done in facilitating the adjustment of discharged or paroled patients. Since that time, the society has continued its interests in the welfare of those hospitalized in our state institutions for mental disorders. The most recent development, for which the society deserves considerable credit, is the establishment of a second state school for the mentally retarded.

In those early years of the society its office continued to be besieged by letters from all over the United States and by friends, relatives and potential patients themselves seeking advice and assistance in solving problems relating to all sorts of mental troubles. This brought about an increasing recognition of the need for local clinics where professional psychiatric service would be available. The first clinic of this type in Connecticut was established by the society in 1913 and was located in the New Haven Dispensary which is the out-patient service of New Haven Hospital. A psychiatrist from one of the state hospitals came one afternoon each week and

* Beers, Clifford W.: *A Mind that Found Itself*, New York, 1908. (Revised, 22nd edition, 1935.)

worked in cooperation with the full-time social worker employed by the society. Later, psychiatrists in private practice were employed and the clinic time was extended to two afternoons each week.

The Connecticut Society for Mental Hygiene early adopted the policy of demonstrating a need, and when the state or local community recognized the value of the work the responsibility was turned over to the proper organization. Thus, the Connecticut Society for Mental Hygiene appeared first on the New Haven Community Chest list in 1921 when New Haven accepted the financial responsibility for the local clinic. Salaries of the psychiatrist, social worker, psychologist and secretary, then as now, made up the chief item on the budget as the other expenses, formerly borne in large part by the New Haven Branch, are now met by the Dispensary. However, at that time and for the next ten years, the social workers shared the offices of the State Society which were located at 39 Church Street.

As relatively late as December 28, 1925, the New Haven Branch of the Connecticut Society for Mental Hygiene was organized in accordance with the policy of local responsibility. Its first president was Mr. Lewis H. English who served in this capacity until 1936 when he became Honorary President. Dr. Ira V. Hiscock succeeded to the presidency from 1936 to 1938 and now Mr. Stanley Daggett holds this office. Miss Henrietta F. Thacher, formerly for nine years Chief Psychiatric Social Worker of the Clinic, has since her resignation been secretary-treasurer of the New Haven Branch.*

Turning briefly to state-wide developments in mental hygiene before continuing with the local situation, we find that other communities developed along similar lines. By 1925 clinics and local mental hygiene societies had been established in Bridgeport, Hartford, Norwich and Waterbury. Later clinic services supported by local mental hygiene societies were started in Stamford and Greenwich. These developments were sponsored by the Connecticut Society for Mental Hygiene and the personnel of the clinics were found or loaned temporarily by the State Society. Also, many of the local board members had been or continued to be active participants in the work of the State Society.

The Boards or Executive Committees of the branches have, in general, had the responsibility for the social and financial policies of the clinics which in their medical and psychiatric aspects were supervised as far or as long as necessary by the professional staff of the State Society. Various membership arrangements and means of support have been worked out by different branches. Membership in the New Haven Branch is now open to all who contribute to the State Society and who live in New Haven or its vicinity, and to all contributors to the New Haven Community Chest who indicate a desire to be considered members of the New Haven Branch.

Many communities, however, lacked facilities and were unable to provide them without outside or state assistance. With special consideration of their needs through the efforts of the Connecticut Society for Mental Hygiene, a Bureau of Mental Hygiene in the State Department of Health was established through legislation in 1920. Since no appropriation accompanied the enactment of the bill, the Connecticut Society for Mental Hygiene provided a psychiatrist for the year at a nominal salary of one dollar. The state gradually took over the financial responsibility. This Bureau of Mental Hygiene within the State Department of Health has expanded with some assistance from Federal Funds to a point where the personnel consists of two psychiatrists, three psychiatric social workers, a psychologist, and secretarial workers. This organization holds traveling clinics in various smaller communities; inspects and licenses private hospitals for mental disorders; gathers and correlates statistics from local psychiatric clinics and carries on a statewide educational program in mental health. Dr. James C. Cunningham, the director of this department, is a member of the advisory board of the Connecticut Society for Mental Hygiene. Recently, efforts have been made by the state society and other groups through legislation to establish a state department of mental health but the goal has not been

* Past Presidents of the Connecticut Society for Mental Hygiene: Hon. George P. McLean, Dr. George Blumer, Judge L. P. Waldo Marvin, Rt. Rev. E. C. Acheson, Mr. A. R. Kimball, Mr. Howard B. Tuttle and Professor C.-E. A. Winslow. Professor Ira V. Hiscock was elected President on May 26, 1939.

achieved.

In New Haven we find the year 1926 of particular importance. The foundation of the local branch was essentially a 1926 event, but coinciding with this was the formation of the present Department of Psychiatry and Mental Hygiene in the Yale University School of Medicine. In 1925 the Commonwealth Fund granted a sum of money for the establishment of a demonstration college mental hygiene unit at Yale University. Dr. Arthur H. Ruggles came on a leave of absence from Butler Hospital in Providence, Rhode Island, to direct this organization. While in New Haven, he served as Medical Director of the Connecticut Society for Mental Hygiene and in addition organized the student mental hygiene service and reestablished in the Yale University School of Medicine the teaching of psychiatry, which had been more or less disrupted in the few preceding years.

By 1929 the Yale University Institute of Human Relations had been established. In this program the Department of Psychiatry and Mental Hygiene was considered an important factor. A part of the Institute of Human Relations building has been used as a hospital for psychiatric patients, having a capacity of fifty beds. In addition, are to be found the offices of the psychiatrists of the Department; the biochemical and psychological laboratories and the other adjuncts of a psychiatric hospital, such as hydrotherapy and occupational therapy departments. Within the Institute Building are representatives of other university disciplines such as psychology, sociology, anthropology, law, and theology.

In the psychiatric hospital, known as the Psychiatric Clinic and as the Psychiatric Service of the New Haven Hospital, the incipient as well as certain more outspoken cases of mental disorder receive the complete physical, mental and laboratory studies and treatment that are recognized as necessary in a modern medical center. This service also fulfills its needed place in such a center for teaching, training and research. This "psychopathic hospital" serves not only the local community and Connecticut, but accepts patients from other states. The hospital, as well as all other activities of the Department of Psychiatry and Mental Hygiene, are a part of the Yale University School of Medicine and from a practical standpoint a division of New Haven Hospital. Since 1938 this Department has not been officially a part of the Institute of Human Relations, although carrying on essentially the same cooperation with Institute departments as before. Dr. Eugen Kahn, who has been Professor of Psychiatry and Mental Hygiene in the Yale School of Medicine since 1930, is a member of the advisory board of the State Society and the board of the New Haven Branch. In the latter organization, Dr. Kahn serves as a member of the Clinic Committee.

Another important factor in the mental hygiene program has been the Clinic of Child Development, which is under the direction of Dr. Arnold G. Gesell. Founded in 1911 by Dr. Gesell as the Yale Psycho-Clinic, and later known as the Clinic of Child Development, this department now occupies a large, well-equipped section of the Yale University Institute of Human Relations. Although research in child development during the early years has remained the fundamental objective of this unit, the valuable clinical service, especially along psychological lines, has been extensive. Many local agencies have received assistance from the Clinic of Child Development, but its services have spread far beyond the immediate locality. Dr. Gesell is a member of the advisory board of the State Society.

Returning to discussion of the Department of Psychiatry and Mental Hygiene, there are three activities that call for some elaboration before further consideration is given to the outpatient clinic.

(1) Referred to above was the establishment of psychiatric service within the framework of the Yale Department of Health, serving the student body and to a certain extent the faculty, also. From 1925 through 1930 there were four full-time psychiatrists, but with the end of the demonstration period financed by the Commonwealth Fund, Dr. Clements C. Fry carried on alone in the division until, within the past year, he was enabled to have an assistant full-time psychiatrist for the work with students.

(2) In 1930, Dr. Marion C. Putnam, a member of the Department of Psychiatry and Mental Hygiene was assigned as consultant in psychiatry to the Department of Pediatrics, working at first on the Pediatric Ward, but soon, with the assistance of Dr. Edith B.

Jackson, the service was extended to the Pediatric out-patient clinic. Lately, following the resignation of Dr. Putnam, the service is under the direction of Dr. Jackson and plans are formulated which will add an assistant psychiatrist to this division and bring about a very close relationship in a supervisory capacity with the pediatric psychiatry of the Psychiatric Out-Patient Clinic.

(3) From 1926 until 1935 various psychiatrists from the Department of Psychiatry and Mental Hygiene responded to calls for consultations in the wards of other services in the New Haven Hospital (except as noted above for Pediatrics). In 1935, one psychiatrist of the Department was assigned on a full-time basis for this service. This development brought about a closer relationship with other services, and continued the teaching of psychiatry on the wards of medicine, surgery, obstetrics, etc. From time to time, psychiatrists of the Department have worked in the out-patient clinics of various services on special problems. Further reference to such work will be given in other connections.

Since the development of the Department of Psychiatry and Mental Hygiene in 1926, the original out-patient clinic mentioned earlier has continued to be the dispensary service of the department. The New Haven Branch of the Connecticut Society for Mental Hygiene, as a member of the New Haven Community Chest, continued the partial support of clinic services by paying the salaries of two psychiatric social workers and their secretary. Also included was a payment to Yale University for part of the psychiatric and psychological service. However, as the Department of Psychiatry and Mental Hygiene increased in personnel, more psychiatrists became available for work in the out-patient clinic and in this way Yale University has steadily increased its contribution to the clinic. In 1931 it was necessary and possible for the clinic to move to larger quarters in New Haven Hospital and at that time the official name of Psychiatric Out-Patient Clinic (P. O. P. C.) was given to the Clinic. Growth has continued until now there is a psychiatric service equivalent to that of five full-time psychiatrists and the clinic is in operation five and one-half days of the week.

In 1936, the study of the functions of the out-patient clinic led to the establishment of a new division or activity known as Psychiatric Service in the Community (P. S. C.). This study, conducted by Dr. George S. Stevenson of the National Committee for Mental Hygiene, resulted from a desire on the part of those concerned with the clinic to extend and make more efficient the functioning of the clinic and also from a desire by several social agencies to have more psychiatric service and to have it more intimately related to their work. Prior to this, the psychiatric work of the clinic had remained largely individual—the psychiatrist seeing the patient in his office and contacts being made as far as possible by the clinic social workers with the patient's family and others in his social background, such as school or social agency personnel. Only occasionally did the psychiatrist have direct conferences with agency workers. An increasing number of persons, both adult and children, were being seen each year, but a large amount of time was being expended in working with persons unable to carry out the recommendations made, and many were not receiving assistance because of limitations of time. It should be mentioned here that in 1931 and 1932 psychiatrists were sent directly to certain social agency offices to attend staff meetings and hold conferences with individual social workers, but this service had to be discontinued.

Probably as a result of this demonstration, but also because of the trend in social work, several agencies, increasingly aware of the psychiatric problems among their clients, made definite requests for advisory or consultative service for their staff members. In this connection, it should be noted that for some years the Visiting Nurse Association has employed a mental hygiene supervisor and that many social workers of private social agencies have had some training in psychiatric social work.

It was decided that this new unit (Psychiatric Service in the Community) would be set up within the framework of the existing clinic, but would be essentially the psychiatric service for the agencies of the community chest and receive the whole support of the New Haven Branch. "Psychiatric Service in the Community" was started in October, 1936, with a personnel of one full-time psychiatrist, two full-time psychiatric

social workers and one full-time secretary. Also included was a certain allotment of time from the psychological service of the Department of Psychiatry and Mental Hygiene. All salaries were paid by the New Haven Branch, except that part of the psychiatrist's salary was continued by the Department of Psychiatry and Mental Hygiene. Later, due to a curtailment in budget, it was necessary to discontinue temporarily the position of assistant social worker.

It was obvious from the first that this unit could not serve all the agencies of the New Haven Community Chest so it was decided that the work would be limited almost entirely to the so-called "private case-work" agencies. Later it became evident that the public schools, the juvenile court, the city Department of Charities and the Bureau of Child Welfare were so intimately related to and concerned with the work of the Chest agencies that plans had to be made to include them in the services of P. S. C.

The cooperation and relationship between P. O. P. C. and P. S. C. has remained so close that strict demarcation is impossible. All referrals, from whatever source for any psychiatric service, except hospitalization, go through an intake conference which is held three times each week and which is attended by the psychiatrist in charge of P. O. P. C. and the psychiatrist, psychologist, and social worker of P. S. C. Previous to these conferences, all referrals are cleared with the Social Service Index and, if found to be active with a social agency, some preliminary information regarding conditions and possibilities of treatment is secured from the agency. Then, if the person is a social agency client, or belongs to a family in which a social agency is actively working, he is given an appointment to see the psychiatrist of P. S. C., providing, of course, that nothing has been ascertained that would contraindicate such a step. If the person referred is not known to a social agency, he is seen by the psychiatrist in charge of P. O. P. C. and may be referred to other P. O. P. C. psychiatrists for complete study and treatment. Occasionally, in the intake conference it may be evident that the patient is potentially a social agency client and in such instances he is assigned to P. S. C.

Many of the initial P. S. C. psychiatric interviews prove to be consultations only and, following a report to the agency, further contact is maintained through conferences with the agency social workers. If continued psychiatric treatment and more detailed study is indicated, the patients are assigned to P. O. P. C. psychiatrists. Then the liason with the social agency is carried on by both the social worker and psychiatrist of P. S. C.; in such cases, the P. S. C. psychiatrist also supervises the clinic treatment.

It is possible for the psychiatrist of P. S. C. to spend only about eight hours of each work week in the above described "office work" with patients. Much of the remaining time is given to service *at* social agency offices. Agencies served in this way and by prearranged schedules are the Family Society, the Children's Center, the Jewish Family Society, and the Community Council of West Haven. Definite time is reserved each week for referrals from the New Haven Board of Education through its Department of Special Education. The latter are seen by the psychiatrist in his office at P. O. P. C. Also, at "the office" conferences are arranged, as indicated, with social workers from the Catholic Social Service Bureau, the Bureau of Child Welfare, the Community Council of West Haven and the Department of Charities, and with probation officers, visiting nurses, visiting teachers, and others. The psychiatrists of P. O. P. C. and the social worker of P. S. C. participate in the majority of these meetings. Not infrequently, inter-agency conferences are arranged and attended by P. S. C. personnel often accompanied by a P. O. P. C. psychiatrist, and these may be held at an agency's headquarters, or in the office of the psychiatrist of P. S. C. It appears that these inter-agency conferences have accomplished much in the way of bringing about a better mutual understanding of all concerned.

When the psychiatrist of P. S. C. visits a social agency, several functions are performed. There are: (1) diagnostic conferences (first discussions of cases in which a summary has been submitted); (2) diagnostic reviews (subsequent discussions of cases previously discussed); (3) psychiatric consultations (a client seen once by the psychiatrist at the agency offices); and (4) psychiatric treatment (continued interviews by psychiatrist with client at agency offices).

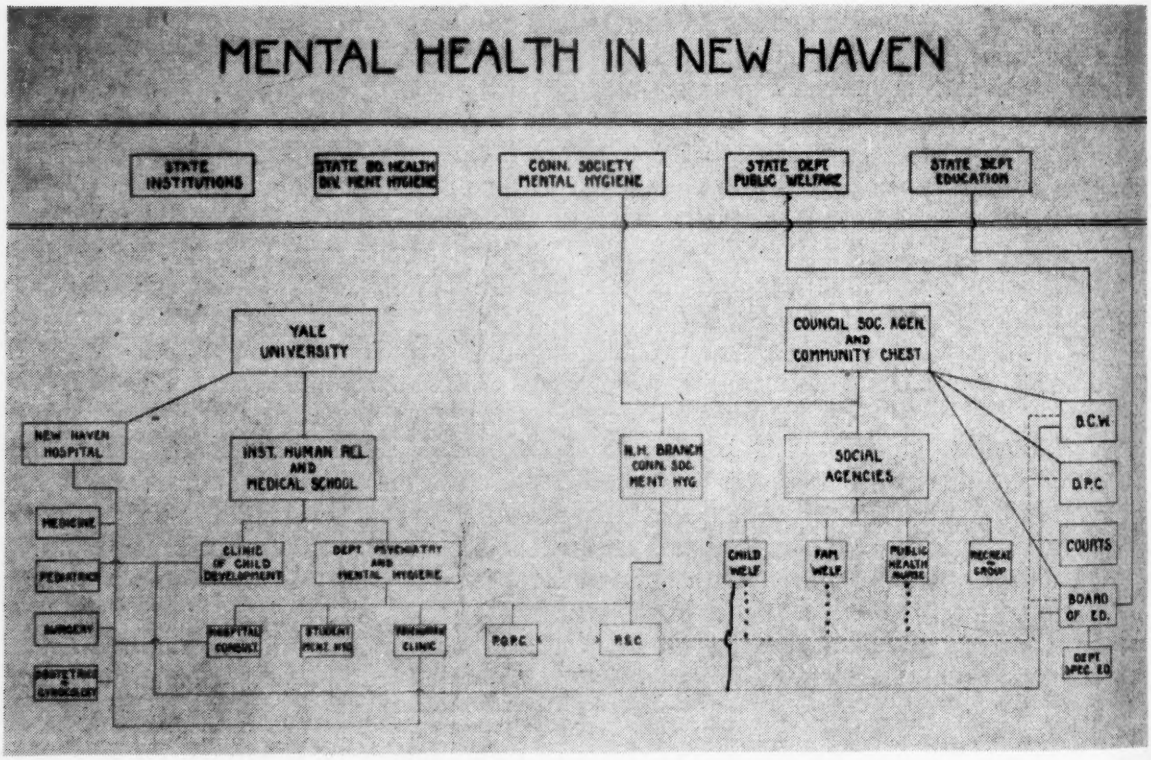
In groups 1 and 2 the clients may never be seen by the psychiatrist and may never be referred to P. O. P. C. In groups 3 and 4 we find those clients where there is a distinct advantage or expediency in the initial or subsequent contacts at the office of the agency rather than at P. O. P. C. Many of group 3 are referred to psychiatrists in P. O. P. C. after direct interpretation by a psychiatrist of what psychiatric treatment means. Also at agency offices, the psychiatrist frequently attends inter-agency conferences.

A special activity of the psychiatrist of P. S. C. is the cooperation developed with the Visiting Nurse Association. The psychiatrist attends the Pre-Natal Clinic of the New Haven Dispensary, seeing, as far as possible, all the patients coming to the clinic with their first pregnancies. The result of these visits is reported to the psychiatric social worker and the supervisor of obstetrics in the Visiting Nurse Association. This is both a study and service function and it promises to contribute much to a positive mental health program in New Haven.

Attempts to describe the various functions of the social worker of P. S. C. have not been very successful. It is obvious that one person cannot be the social case worker for five full time P. O. P. C. psychiatrists. In fact, the social agencies of the community more or less fulfill this function. The best interpretation is that the social worker of P. S. C. is a cooperative case worker serving in a liason capacity between the psychiatrists of P. O. P. C. and P. S. C. and the community agency. This is more than a full time activity and the need for assistance is recognized.

The psychological service of P. S. C. is well integrated with P. O. P. C. Psychological service for both is under the direction of Dr. Catherine C. Miles and is a part of the Department of Psychiatry and Mental Hygiene. Many social agencies, both private and public, receive assistance and plans are under consideration for extension and further cooperation in the psychological work.

Practically all clients of social agencies are maladjusted in some way. Although the presenting problem is usually financial embarrasment, this need for money may often be only external evidence of other problems in the realms of past training and experience, of family relationships, of physical and mental conditions, or of social defects in the community. Social agencies have come to recognize that understanding of individual and family problems should precede the giving of



alms and that in this understanding psychiatry plays a major and fundamental role which gives formulation to social case work. Accepting this view and the fact that psychiatrists cannot be available for every problem in the community, then the existence of a service such as Psychiatric Service in the Community intimately associated with a psychiatric out-patient clinic becomes understood as a necessity in community planning.

The Early Recognition of Mental Disease*

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In the practice of medicine, whatever the branch may be, there is no better teacher than that form of experience usually called *Hind Sight*. No other teacher can possibly offer the instruction and the information to be gained by looking backward and realizing, in terms of the final outcome, what things might better have been done for the patient. By so looking backward adequately, one gains a full understanding of the entire course of an illness from the time of its earliest manifestations and symptoms to the time of its final result. It is only by means of a comprehensive longitudinal view of the patient and his illness that one can learn to recognize and to appreciate the significance and meaningfulness of the earliest symptoms.

This mention of hind sight is made because of its importance in mental hospital psychiatry, perhaps more so there than anywhere else. It is only with the patient in the mental hospital that one comes to realize so fully the importance and the revealing character of the individual's remote past history when seen from the perspective of a psychotic development as the final result. The absolute need, if the mental hospital patient is to be treated adequately, of knowing fully the innumerable items of the patient's personal growth, development and experience; or, in other words, of having adequate hind sight bearing upon the patient's entire past life, is readily recognized. To gain the knowledge requisite to any satisfactory psychiatric therapy, there need to be secured extensive social service histories, and all the detailed intimate facts about the patient that can be obtained from the family, relatives, friends, acquaintances, employers and, most particularly, if possible, from the family physician, who properly should constitute the most desirable source of special information of a helpful constructive type.

It is from the vantage point of these extensive histories, so carefully and deliberately compiled by the social service department and so necessary to the laying of any foundation for adequate psychiatric therapy, that the mental hospital psychiatrist has the opportunity to recognize not only what the early symptomatology was, but to recognize and to appreciate oversights, misunderstandings, failures, misjudgments, errors of omission and commission and all the other things that served to permit the patient's earliest symptoms of maladjustment to remain unrecognized and to grow progressively more serious and finally to become evidence of serious mental disease.

In other words, the adequate social service history constitutes primarily a systematic account of the earliest symptoms and manifestations of the course of the development over a long period of time to the final signs of full-blown mental disease. Hence, the opportunity afforded by the social service history to view the mental patient with hind sight is unparalleled and it is against this background that we propose to offer our dis-

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cussion of the early recognition of mental disease, and to present a consideration of the symptomatology of mental disease as it confronts the general practitioner, who properly comes into contact with mental disorders long before commitment is necessary.

However, before proceeding to a consideration of the actual early symptoms of mental disorder as they are seen by the general practitioner, discussion should properly be offered of the criteria or the yardstick by which recognition can be made early of the normality or abnormality in the individual case. In this connection, the concession is to be made at once that there can be no infallible rule by which to judge the individual patient, even as is the situation in general medicine. However, in ordinary practice, the physician is not likely to be mistaken who employs the simple yardstick of a marked rise in temperature as a definite indication of somatic illness. Likewise, in the matter of the early recognition of mental disease, we propose to offer a similar simple, though not infallible, yardstick or criterion of mental soundness, namely, one based upon simple common sense and the long and intensive experience every general practitioner has had with human beings of all types and varieties.

To explain: As you all realize, the patient comes to the general practitioner not to disclose his strengths and special aptitudes and abilities, but rather to reveal his weaknesses and inadequacies. Hence, the physician comes to know thoroughly and comprehensively the nature, character, variety, extent and number of human weaknesses and frailties without being misled by false fronts and pretenses. Perhaps no other class of people has a better opportunity of knowing what human beings really are than has the general practitioner, who sees his patients in all varieties of situations and circumstances. And it is this background of general, but intimate, knowledge of human nature that qualifies the general practitioner, interested in so doing, to recognize and to deal with the early symptoms of mental disease.

Thus, without even trying, the general practitioner comes to learn what sort of behavior may reasonably be expected of this person or that, and he is not surprised when one of his patients gets into trouble and when another achieves success. He has an adequate knowledge of how many bad things and how many good things to expect from his average patient. Thus, he knows that he is going to return in about a year to deliver another baby to Mrs. Jones; that Mr. Jones is not going to hold his job more than three months; that Mary Smith is certainly going to get in trouble before another six months; and that Bill Brown just hasn't a chance of making good in his present position. All of these items and innumerable other intimate facts are known by the general practitioner about the people in his community. They place him in an enviable position to recognize when something unusual or strange or inexplicable is happening to any one of his patients. Furthermore, his knowledge tells him roughly just how much that is unusual or bad can be expected in each individual case so that when the general balance in the individual's behavior becomes disturbed, he can readily appreciate that some sort of a serious change is occurring in that patient. In other words, the general practitioner may expect in each of his patients some quirks and oddities and eccentricities, but only so many oddities for each particular patient, and when those peculiarities suddenly change and increase, he can appreciate easily and readily that something really is wrong.

And so, when recognition is given to the fact that everyone is queer in some respects, the question arises, "By what means, criterion or yardstick may judgment of abnormality be passed effectively and correctly?" Or in other words, how may the general practitioner, with a reasonable degree of certainty, decide that various manifestations in the behavior of his patient actually constitute early symptoms of mental disease and are not an evidence merely of individuality?

The suggestion we wish to offer in this regard as a generally satisfactory yardstick of normality concerns the purposefulness and usefulness of behavior. While we agree that all human behavior is necessarily purposeful, the usefulness of normal behavior is clearly recognizable, understandable, and effective so far as a reasonable achievement of personal goals and aims is concerned. Abnormal behavior, on the other hand, is not purposeful in a clearly understandable, recognizable, and effective fashion, and it is primarily directed to goals that are not in

keeping or harmony with what one properly expects of that individual. Thus, behavior that does not serve a readily understandable and useful goal for the individual, that is not in keeping with what may reasonably be expected of that person, that is persisted in to such an extent that it interferes with the person's other and understandably useful behavior, is definitely abnormal and should be looked upon as necessitating medical attention by someone qualified by general experience in dealing with human nature. For example, the child who develops one temper tantrum after another until it gains its way and then capitalizes upon the gains so achieved, and thus carries out its own wishes, constitutes only a problem in management and education. But the child who develops innumerable temper tantrums for no readily understandable reason and does not make use of those tantrums to gain its own ends, but seems only to express thereby its disapproval of the world in general, constitutes another problem of a definitely abnormal type. Likewise, the woman who nags her husband for adequate reason is purposeful in her behavior so long as she does not let that nagging, however justified, interfere too greatly with the discharge of her own duties and obligations. But when that nagging becomes so extensive that it takes all her time and energy, it falls into the same category as that of the woman who nags her husband constantly without reason. Hence, it becomes abnormal because of its definite lack of a useful purposeful character. Or again, the young man who works hard and saves his money to attend college and then suddenly dissipates all of his savings and then returns to work and again saves his money, only to repeat his previous conduct, is showing behavior primarily lacking in understandable purposes and hence it is abnormal.

However, this does not necessarily mean that the purpose and goal of human behavior must necessarily be legitimate and desirable, since human nature is not perfect. Normal human behavior can be subject to prejudices, misunderstandings, ignorance, and to all the weaknesses of mankind, and yet have purposes and goals readily understood and appreciated as being harmonious to an individual possessed of normal desires and strivings, regardless of any errors of judgment and the lack of common sense in his behavior. In other words, to be abnormal, behavior must necessarily be lacking in purposeful useful qualities so far as the reasonable average goals of the specific individual person are concerned. Such behavior is inconsistent and at variance with the other forms of behavior properly expected or common to the person, and it constitutes a handicap in his functioning as a capable citizen, since it results in a loss and waste of energy, and a defeating of his personal goals and aims.

In brief, to judge whether or not any particular item of behavior is normal or abnormal, one needs only to view that item in direct relationship to the general average pattern of behavior that is known and may reasonably be expected in that person. By such comparison and contrast, effective and reasonably correct judgment can be passed. Simply to view the item of behavior as an isolated phenomenon and as without relationship to the individual's background, leads to error and misunderstanding.

One other consideration relates to the variety of changes in the purposeful character of behavior. The changes, alterations and variations in the purposefulness of behavior vary from over-emphasis to complete loss, to a distortion in an explicable fashion. For example, the woman who scrubs her floors endlessly to the neglect of other duties shows an over-emphasis of purpose upon an ordinarily useful task. Or the young man with a good industrial history who loses his job and then sits quietly about home, always planning month after month to look for work on the 'morrow, shows a complete loss of purpose. And as for distortion in a non-understandable fashion, one may take the example of the obese girl who, resenting the ridicule of her associates, diets to the point of the extreme emaciation of anorexia nervosa. To these examples, out of your own experience, you can add innumerable instances, with ready appreciation of the need to judge behavior according to the purposes it serves for the specific person.

We may proceed now with a consideration of what those forms of behavior are, which, judged against the background of their purposefulness to the individual, constitute early symptoms of mental disorder and disease. Perhaps the best approach is by a discussion

of various separate categories determined in relation to the particular types of mental disorder to which they may lead. Accordingly, we shall take up first the various items that indicate behavior problems and behavior disorders in children, and, as an essential caution in this connection, we wish to emphasize that each and every one of the evidences of behavior disorder that may be found in children, normally and naturally occurs in practically all children as a part of the proper and necessary growth and development of the child. It is only when these various disorders occupy too much of the child's time and effort, when they bring about a general disturbance in the child's total adjustments, that they are to be considered abnormal. It is not necessary for any one of these evidences of maladjustment to be abnormal in itself, but if it interferes with the ordinary life of the child, or if it causes those concerned with the child's welfare to place too much emphasis and stress upon it to the detriment of the child's welfare, then it is to be regarded as a definitely destructive influence upon the child.

The decision as to the normality or abnormality of any one or more items of behavior should properly rest with the family physician who has the opportunity of appreciating adequately what type of behavior may reasonably be expected within a family group, what purposes that behavior may serve and what effect that behavior may have upon the individual and those associated with him. With this caution, we shall proceed to the individual items signifying behavior disorders and the instances we mention refer only to those occurrences in which the particular manifestation is excessive and destructive to the child's welfare.

Ordinarily, the evidences of behavior disorders in children are the most easily recognizable, but all too frequently they are dismissed as unimportant on the assumption that the child will necessarily outgrow them. A review of the case histories of our patients here, however, will disclose too often that childhood maladjustments never were outgrown. Rather, those early maladjustments serve to establish and to fix within the individual unhealthy and abnormal ways of behaving so that the individual becomes progressively more handicapped in his general life situation.

Childhood behavior disorders are easily recognized since we all have an excellent idea of what kind of behavior to expect from any child of a given age, regardless of physical and mental endowments. Hence, any departure by the child from that general average of behavior is most noticeable. Thus, we expect a baby to wet the bed, but not a six-year-old. We expect the little girl to have a dirty face, but not the 14-year-old lady. And we expect the 10-year-old boy to be constantly scuffling and on the alert with healthy disregard of everybody else and not mooning ambitious adolescent dreams like his teen-age brother. But let the child step out of his class and show behavior that is consistently too old or too young for him and you know at once that there exists some manner of behavior disorder, the seriousness of which depends upon the actual number, forms, patterns and persistence of the wrong behavior. The general manifestations of childhood disorders we may list briefly and concisely in special categories with emphasis placed primarily upon those symptoms most likely to lead to serious results.

First of all are those symptoms that relate to *unhealthy attitudes toward the body*—such as finger sucking, nail biting, pulling one's hair, incontinence and faulty elimination habits, over-eating, body fingering and hypochondriacal reactions—all to such a degree as to hamper and handicap the child's general patterns of adjustment. Often these items, however extensive in degree, are looked upon as mere nuisances rather than as indications of serious behavior problems. The child whose finger nails are always bitten to the quick is one who, in achieving this result, has spent a tremendous amount of time, energy and effort that no child can afford to spare from play activities so much more pleasant and educative, and so necessary for normal development. One might summarize by the paraphrase, "All finger nail biting and no play makes Jack not only a dull boy but deprives him of the opportunity to learn many necessary things from normal play."

Likewise, the case of the child who stands about sucking his thumb instead of joining his fellows in games, thereby loses time and opportunities in the matter of development. Similarly, the child who soils and wets his

clothes long after the age of infancy, is building up a pattern of behavior that makes him, even from his own point of view, a social outcast and which bars him from ever establishing an adequate control over or developing adequate healthy respect for his own body. In the same way, the bedwetter, faced each morning with the humiliating, disheartening experience of a wet bed, builds up within himself a distrust and a mistrust of his own physical competence and ability. One need only call to mind a small boy proudly displaying his muscles to realize how important a sense of pride, trust and confidence in one's own body is for a normal healthy outlook upon life.

Another example is the child who runs constantly to the toilet; who seems to spend all of his time and energy in attention upon elimination and who thereby manifests too much concern and interest in bodily processes, properly of only momentary interest to the child. Such narrowing of attention precludes the child from developing more adequate and healthier interests elsewhere. Or again, the child who has recovered from an illness but persists in whimpering and whining and who demands constant babying thereafter is disclosing a serious weakness in his ability to be a normal healthy child, and he needs helpful medical advice and not just an opportunity to outgrow this behavior. The process of outgrowing requires too much time and effort and prevents the acquisition of other lessons in life that must be learned if there is to be mental health. As we look back over the histories of our mentally ill patients, these are the sorts of body attitudes we find in the accounts of their childhood. It is true that all children show these reactions at one time or another, but the normal healthy child is too busy to persist for long in these types of body attitudes. It is only when these habits become persistent and dominant that the child misses many of his opportunities for normal development.

Another type of behavior disorder relates to *general habits*—specifically eating, sleeping and playing. We all know the normal range of behavior for each of these and we recognize their extreme importance in each individual's life. Likewise, we need to recognize and emphasize that any extensive disturbance in any of these habits is also of marked importance in the individual's physical health and life. The child with a healthy body who sleeps too much or too little is building up a most destructive habit that takes away the time or strength necessary for healthy mental growth. The child who persistently overeats, vomits and overeats again, or who undereats is training his body and altering his physiological responses in a most undesirable fashion. The child who plays by himself by choice, or who only looks on without participation, or sits about idly, perhaps futilely wishing there were something he could play, is neglecting his opportunities for the development of initiative and resourcefulness and thereby failing to learn lessons vital to mental health and personality growth.

Another type of early symptomatology centers around social reactions and trends such as withdrawal from the group, lying, disobedience, cruelty, selfishness, stealing and truancy. Particularly do we find significant information bearing upon these items in the histories of our mentally ill patients. A reasonable occurrence of various of these items is essentially normal in each individual's life. In fact, a certain incidence of these forms of misbehavior is almost requisite, if one is to be graduated successfully from the school of experience. But the child who persists in these undesirable or asocial or actually antisocial practices and makes a constant habit of them prolonged over a period of time needs the kindly understanding advice and guidance of the family physician so that he may not grow up to need the services of the psychiatrist.

In these evidences of social maladjustment, not only the type but the number and the variety as well as the degree and extent are of great importance in passing judgment. In brief, they should be regarded with as much concern as is an undiagnosed skin rash, since the social health of the individual is fully as important as the physical health. Particularly does one feel concerned about these types of social failure and maladjustment when it is realized that society reacts in a punitive fashion, with the result that too often the unfortunate child is denied adequate opportunity for normal social development, and thereby is forced to continue in these undesirable patterns of social behavior.

Another and not well realized aspect of this general problem of social maladjustment concerns the failure of the child to be sufficiently aggressive to get into mischief. The child who has not sufficient initiative to get into mischief, who is always a model child, fails to learn from the "school of hard knocks," and hence does not get exposed to the lessons of life necessary for mental well-being. Among our patients here we can demonstrate many who were such model children that they never learned the realities of life. In other words, the diet for social development and health must include a reasonable amount of "roughage".

Now it may seem that we are giving too much attention to childhood behavior problems and it may be well, before proceeding, to emphasize that all the behavior disorders of childhood can be found, perhaps slightly altered in form, perhaps unchanged, in the early youth, in the adolescent and in the adult. In our patients on the ward, from the youngest child to the oldest senile, we can find the same general symptoms at every age level. And so, when the adult comes to your office with an infantile behavior reaction, or a child comes with hypochondriacal complaints more often seen at the involutional period, the physician's problem is essentially the same; that of recognizing and understanding the change in the purposefulness and usefulness of the patient's behavior.

The symptoms of mental disease, particularly in the early forms, concern body attitudes, social reactions and trends, general habits, emotional manifestations and such special spheres of human experience as the sexual, and so the problem of the general practitioner is to recognize these general symptoms early in their course before the development of an actual psychosis has transformed them into delusions and hallucinations and other forms of disorganized and distorted behavior. By learning to recognize and to appreciate childhood behavior disorders, one establishes a foundation upon which to recognize and to appreciate the same symptomatology in older patients in whom the behavior disorder has progressed to the state of an early mental disease. Only the outward form of the manifestation or the words used to describe the complaint may be different. The underlying significances to the individual personality are the same, whether he is a child or an adult, and so, just as men are but children grown taller, so should the general practitioner look upon his adult patients as suffering from all the ills of childhood, including, as symptoms of early mental disease, the childhood behavior disorders. With this special emphasis upon the essential identity of behavior problems and early mental disease, we may continue with the manifestations of unhealthy emotional reactions, such as hates, fears, spite reactions, jealousies, rivalries and temper tantrums.

As in the case of social maladjustments, little needs to be said about the undesirable character of *unhealthy emotional reactions*, particularly if they are so persistent as to make the child forget his play and devote his energies to their manifestation. The child with undue fears, anxieties, phobias and intense rejections of an emotional character is laying an adequate foundation for a future anxiety neurosis, just as the child who indulges in jealous, spiteful, hate reactions to the exclusion of other and normal activities is laying the foundation for a future pathological depression. Similarly, the child who labors daily under a burden of hate, resentment and rivalry is showing early manifestations that need correction before a paranoid reaction develops. One expects of every child adequate manifestations of each of these unpleasant emotional reactions, but also, one does not expect any child to hold too long these intense unpleasant emotional reactions. The rapidity with which children can quarrel and make up is most amazing to adults and the strongest of their intense emotional reactions cannot normally survive the enchantment of a new toy. But the child who constantly sulks or pouts or broods or reacts with innumerable temper tantrums, fails to experience the normal flux of emotions and develops a rigid unyielding emotional pattern that leads progressively to greater troubles.

Now by that statement we do not mean that greater troubles must necessarily and invariably develop, even though the emotionally disturbed child is neglected and mismanaged, but we do mean that those deviations from the normal in children do lead to a greater susceptibility to mental illness. This

is emphasized by the case histories of our patients here, which disclose long continued records of early emotional maladjustment. As a crude parallel, we might cite the patient with coronary disease who may live five minutes or 10 years more—one cannot know. But one does know that sudden acute strains upon such a heart may be fatal, though not necessarily so, and such is the case of the child whose emotional development is handicapped and distorted. Sudden acute strains or an intense burden may warp and distort still further to a pathological degree.

Concerning the treatment of these various disorders, we have little to say at this moment, since the primary need, we believe, is to enable the physician to recognize and to understand these problems, so that he can then rely upon his own common sense and wealth of experience in handling human nature.

To proceed now with the problems of the early symptomatology of mental disease after the period of childhood, we need to deal with specific types of mental disorder. The most common of these to be seen by the general practitioner are the neuroses, particularly the anxiety states. The clinical picture of this condition varies with the individual experiential background and the number, variety, character and severity of both the subjective and objective symptoms. In general, however, this neurotic type of patient shows such symptoms as excessive, prolonged and all-absorbing interest and concern over essentially normal body processes and functions, or he may show feelings of fear, uncertainty, worry and anxiety about the functioning of his body and of the possible effects of such simple physical difficulties as headaches, mild infections, perspiration and similar items ordinarily given a minimum of attention. Or the patient may complain of obsessive thoughts, of compulsions, of feelings of unreality and of despair, without being able to give any understandable justification of his complaint. Or. more frequently, the complaint concerns the loss of energy and interest, and feelings of incapacity and the tendency to restrict in a progressively inclusive fashion all of his activities.

Ordinarily, these patients are essentially healthy, physically speaking, although the existence of any small physical disability is seized upon and exaggerated and used to further their general complaints. The practitioner's task in listening to such complaints is not primarily reassurance of the patient that all is well and that these matters may be forgotten. Rather, his task is to listen to each of these apparently unreasonable complaints and to appreciate the extent to which they interfere with the patient's normal functioning as a useful citizen. He can best evaluate the meaning and significance of all of these complaints by determining the extent to which they disrupt the patient's daily life. When he finds that the patient's symptoms have brought about a marked variation and change in the daily behavior, and that much of the patient's general activity has lost its purposefulness and usefulness, he can then appreciate that a condition exists, which is as worthy of medical attention as any infection that disrupted the patient's daily life to the same degree.

The mere fact that a patient complains bitterly month after month about a weakness in an arm and devotes all waking moments to that complaint, when adequate medical examination discloses no physical basis for the complaint, signifies an illness as real and as destructive to the personality as would be a paralysis of that arm. In brief, the paralysis of hysteria is fully as incapacitating as that deriving from a cerebral hemorrhage and the physician's task is not that of dismissing the patient, but rather of correcting the patient's condition. In other words, regardless of any organic background for a disability, the patient must be judged in terms of his actual ability to function as a useful citizen.

As general experience will teach, we all have a rough idea of how the average adult person should behave and we base our expectations upon our knowledge of that person's past history. When a patient suddenly begins to show behavior that is lacking in purpose and usefulness, that is not in harmony and keeping with what can normally be expected of a person of that age and experience, then there is evidence that the person requires intelligent and capable medical aid.

Concerning the early symptoms of the anxiety states, there probably is little point in mentioning them since the general practitioner has heard innumerable stories about

weakness, tiredness, excessive perspiration, headaches, loss of appetite, easy fatigue, pressure on the head, constant worrying, recurrence of obsessive thoughts, tremors, aches and pains, feelings of unreality, expectation of sudden catostrophes and calamities and all of the other symptoms that cannot be found to have any organic background upon careful medical examination. Nevertheless, despite this lack of organic background, these symptoms are real to the patient, and when they interfere seriously with that person's social, economic and personal adjustments, when they cause his behavior to become purposeless and useless, adequate recognition and attention should be given to these complaints, as signifying an illness requiring medical attention, and such attention should be given before the patient's symptoms become so fixed and rigid and uncontrollable that it requires a specialist to give therapeutic aid, if indeed the specialist is able to do so. Indeed, the general practitioner who is consulted at the early development of these symptoms is in an advantageous position to correct them before they grow to too unwieldy proportions.

However, I would like to mention, as of particular interest, that the general practitioner, in viewing these patients, will recognize in them the child's infantile patterns of behavior and attitudes, so out of keeping and harmony with their years and stature. Their complaints constitute essentially the childhood behavior disorders grown older and larger. When so viewed and understood, there can then be ready realization that any adult whose ordinary daily life is so dominated by infantilisms must necessarily be as much in need of medical attention as is the adult suffering from childhood infections. The neurotic's complaints, however unreal physically, do dominate, limit and restrict normal functioning as much as does actual physical disease. Enabling his patients to meet routine daily obligations is a physician's primary duty, no matter what the nature of the personal disability.

Another general category of mental disease with which the general practitioner comes into contact are the early stages of *manic-depressive psychosis,* particularly the depressive reactions. In regard to these patients, there is little difficulty in realizing that something is definitely wrong with the personality. Rather, the primary problem is the task of appreciating the extent and seriousness of the illness. Thus, in the early manic phase, there is a rush and pressure of activity, usually within the normal range of what may be expected of the person, but there is too much activity, too much enterprise, too little restraint and there is constant extravagance and clash with the environment, with errors of judgment and common sense at every turn. Likewise, there is loss of sleep, neglect of ordinary minor daily duties, and marked increase in emotional responses, either of pleasure or displeasure. The physician who sees the patient who previously has had a long history of a stable, well-ordered daily existence, who suddenly becomes over-active in a progressively disordered fashion, needs to realize at once that such behavior signifies an over-emphasis upon purpose and usefulness that defeats its own ends. His task is to realize the probable outcome of such energetic, misguided, overactive behavior and thus be prepared to protect his patient's interests by seeing to it that the patient's relatives are apprised of the situation and that the patient himself is induced to seek proper medical aid.

The problem in relation to the depressive reactions is not quite so urgent though fully as serious, since there is a tendency for the patient to become depressed over a longer period of time and at a slower rate. A depressive patient shows, particularly, a loss of initiative, of interest and hope; daily duties are neglected, time is idled away, vague feeble complaints are made and the patient is unable to sleep and usually develops physical disorders such as loss of appetite and weight, constipation and menstrual and sexual disorders. These symptoms, however early, seen in a patient who has a long history of industry and well-ordered activity, are suggestive of serious personality disorders. With this recognition, the general practitioner can give heed to the patient's vague and apparently unfounded complaints and, by lending a sympathetic ear, he will be in a position to uncover in their early form development of delusional and suicidal tendencies. Thus he will be in a position to apprise the relatives of the situation and to provide adequate psychiatric

care and protection for the patient.

In both the manic and the depressive reactions, the treatment is essentially that provided by the mental hospital, but the duration of the illness for the patient depends, in many instances, upon the promptness with which the family physician recognizes the warnings and arranges for adequate psychiatric care. And the general recognition of either condition is essentially a matter of viewing the patient's immediate behavior and conduct and judging its purposeful and useful character in terms of what can reasonably be expected of that individual. Behavior markedly out of harmony with a past history of stable industrious activity signifies a change in the personality that requires the critical gaze of someone experienced in human nature.

The last type of mental disorder I wish to discuss is the schizophrenic reaction type, or *dementia praecox*. These are the patients so often seen early by the general practitioner and whose difficulty is so easily overlooked because the patients seem to show so little upon which to base any opinion. Yet they are patients who have a decidedly consistent past history of behavior disorders and social and personality maladjustments of a progressively increasing character. These patients are of two general types—the one characterized by more or less passive indifferent behavior and the other characterized by an increasing display of unusual, odd, unexpected, impulsive and finally socially unacceptable behavior.

The patients of the first type tend to be shy, quiet, retiring and unobtrusive in behavior. They hold themselves aloof from realities, they become increasingly withdrawn and disinterested without ever doing anything of a positive character to attract either favorable or unfavorable attention, except in a negative way. These patients are the model children who never do anything wrong and who have never learned the necessary lessons to be derived from the experience of mischievous mistakes and bad judgment. As the years pass, however well these patients may perform their daily routine duties in life, there is a progressive withdrawing from reality, a substitution of daydreaming for activities and the tendency to accept a place in life and in the family more suitable for one much younger. There is a loss of ambition, of interest, a failure in capacity for attention, a dulling or a loss of proper wholehearted emotional responses and there is a progressive need for them to limit and to restrict all of their activities and finally there is a development of frankly psychotic symptoms such as delusions and hallucinations.

The second type comprises those patients who react in a much more positive way; who tend to be anti-social, destructive and impulsive, and highly emotional in an extreme and often offensive way. There is a lack of consideration for others, an incapacity to learn from sad experience, a tendency to repeat an error in adjustment over and over again and there is a development of and a persistence in unreasonably ambitious ideas and hopes and plans. Their emotional attitude is one of disinterest in others, of callous disregard and extreme selfishness. As these tendencies increase and develop there comes about a slow alteration into progressively more psychotic manifestations such as preoccupation, excitements, confusions, feelings of unreality, depersonalization, and the development of various types of hallucinations and delusions.

As one views the schizophrenic patient and looks over his life history, one is impressed repeatedly by the lack of understandable purposefulness in his behavior, the uselessness of many things that he does and the general tendency toward infantile and childish behavior, which would be suggestive in a small child of a behavior disorder. Hence the practitioner whose patient tends to show markedly childish and infantile behavior, who shows no consistency of readily appreciated purposes in any of his activities, or who shows a purpose that is extremely consistent but not in accord with practical realities, there should be a question in mind as to the existence of early schizophrenia.

Perhaps the best example to give, illustrative of this type of disorder, relates to a young man of good intelligence who, as a child, progressively lost interest in his school work, in his friends, in all of the recreational activities of his neighborhood; who worked well at first under the supervision of his father and other employers but who could not hold a position for long; who showed a progressive loss in his emotional responses

to the rest of the family and often developed unreasonable prolonged temper tantrums until finally he had antagonized every member of the family. From that point he became increasingly self-absorbed, uninterested in everything, now and then talked about writing a novel, although he had not finished the sixth grade, and about becoming a millionaire. When finally discharged from his position as a janitor for a garage, a job given him by charity, he came home and complained of a pain in his chest. The family physician saw him repeatedly, but the patient discounted the seriousness of his complaints, showed no particular interest in the doctor's visit and no concern about his own general welfare. Periodically over the course of five years, the patient's mother had him examined by the family physician, since the patient constantly planned to go to work as soon as he was rested and the pains in his chest ceased. After five years of idling about the house, daydreaming, never even finishing the reading of a book that was once begun, the family found themselves unable to support him any longer. When admitted to the hospital, more than an hour's time was required to elicit frankly psychotic delusions and hallucinations, but so far as the general practitioner is concerned, a young man who spends five years idling about the house in such a futile fashion is showing the best of evidence of mental disorder.

To summarize very briefly, then, the problem of recognizing the early symptoms of mental disorder and disease. The general practitioner needs primarily to judge his patient's behavior in terms of what may reasonably be expected of the particular individual, in terms of what is purposeful and useful to the individual and in terms of what behavior is in keeping and harmony with the general established patterns of behavior of the specific person.

In presenting this discussion, I realize that I have emphasized and stressed repeatedly the significance and importance of a great variety of early manifestations of personality disorder and disease. I have not hesitated in placing so much emphasis upon them since the wealth of experience every general practitioner has with human nature will prevent him from developing any alarmist attitudes toward every little thing that may occur. My purpose has been only to point out that apparently simple insignificant changes in the patient's ordinary purposeful behavior can portend as tragic an outcome as can a little insignificant painless lump in the breast. Not every tumor of the breast is cancerous in potentialities, but it is the physician's duty to have that possibility clearly in mind without becoming excited and alarmed. And so it is with the early symptomatology of mental disease. The physician who first sees the patient in the earliest stages should have clearly in mind the possibilities of eventual development, and then, against the background of his own wealth of common sense and experience, he should weigh those symptoms and decide what measures, if any, are necessary for that particular patient.

Eloise Hospital.

Psychiatry and General Practice

CHAS. W. CASTNER, M.D.
Austin, Texas

Dr. Castner is a Fellow of the American Psychiatric Association and a Diplomate of the American Board of Psychiatry and Neurology. He is also a member of the Southern Psychiatric Association. He was formerly Superintendent of the Wichita Falls (Texas) State Hospital; and Special Examiner in Neuro-psychiatry for the United States Army. For four years he has been Chief of the State Eleemosynary Institutions, State of Texas. He has contributed several papers to the medical literature.

Having for twenty-five years cared for and treated hundreds of patients suffering from mental diseases which were severe enough to cause hospitalization of the individual, and held conferences with a large number of physicians in general practice who were the first ones to see and advise the patient from a medical viewpoint, I am convinced that the general practitioner is in a better position than any other person to offer the early mental patient advice and care. Since the field of psychiatry has more clearly developed, there have been training courses offered in

leading psychiatric clinics and centers for the general physician, in order that he may more fully arm himself with information which will be helpful in his contacts with the mental case. I think that this will result in many mentally ill persons receiving first hand care from our colleagues out on the battle front, and also afford the general practitioner an opportunity to refer the case to psychiatrists, clinics and sanatoriums before extensive damage has occured. Not every such case will terminate successfully of course, but there is no doubt that we will have handled the case much better than heretofore.

Calculation of the economic loss, as well as the actual cost for hospitalization of the mentally ill, runs up into figures almost unbelievable, and any part played by the general physician to lessen this burden will reflect in a gain in assets to the community and less demand as a liability upon the citizenship. I have often remarked to my associates on hospital staffs and to nurses in training, that the greatest need for the mental patient was understanding and friendship. Understanding on the part of the attending physician means a scientific understanding of the subject of psychiatry; the specific mental illness; the patient as an individual and as a whole. No person can be in a better position than the general physician, to understand these things to the patients' advantage at the beginning. He knows the patient as a normal person, who has lived in the community and been a part of the development of the neighborhood. The family physician (more power to him) will, in all probability, be the only medical man in the case of a mental illness, who has known the patient as a normal individual and who knows just how far he has gone in his sickness. The psychiatrist must depend upon information from these general men, together with his analysis, based upon information, examination and observation, to guide his diagnosis and direction of therapy.

It occurs to me that this is the most opportune time in the history of medicine for the man in general practice to familiarize himself more thoroughly with the problem of mental illness, and this may be done, as suggested above, by attending courses of instruction and reading special literature devoted to the work of the man in general practice. There will be two factors involved here. It will be of material value to the community to have competent medical-psychiatric service and it will bring its reward to the man who will prepare and interest himself in this field. Once interested, the general man will find sections of neurology and psychiatry of many medical societies appealing, as well as attendance to meetings of special societies, to which he may become a member upon making known his interest.

We psychiatrists welcome with open arms and warm fellowship our colleagues in the general practice of medicine, who by their interest, come in and sit among us in our council and offer us their impressions of the great specialty of medicine from the first line trenches. After all, if we who specialize in the care and treatment of mental patients have this reinforcement of first hand knowledge, we ourselves shall be better prepared to go further into the perfection of this science. We cannot go as far nor be as successful, unaided by our co-worker who has the information before and at the time of a mental break. Therefore, you see how important the general practice of medicine is to the progress of the specialty of psychiatry. Do not underestimate or undervalue this opportunity.

Capitol Building.

Newsnotes

THIRTEENTH ANNIVERSARY NUMBER OF THE HAROFE HAIVRI

"The Hebrew Medical Journal"

The attention of the medical profession is directed to the appearance of a special issue of *Harofe Haivri* (The Hebrew Medical Journal), a semi-annual publication, edited by Dr. Moses Einhorn, 983 Park Avenue, New York City. This volume commemorates the thirteenth anniversary of this journal and is dedicated to Prof. Sigmund Freud.

The founders had faith in the vitality and growth of modern Hebrew and foresaw that

a Hebrew medical publication would be of inestimable value in the development and advancement of Hebrew medical literature; also, it has proved to be of particular service to the medical department of the Hebrew University in Jerusalem.

The contents of this Journal are not confined to technical medical topics, but are divided into several sections covering a variety of related subjects, such as Medicine in the Bible and Talmud, Old Hebrew Medical Manuscripts, Palestine and Health, etc. Among the contributors to the medical and editorial sections, have been such prominent physicians as I. S. Wechsler, A. Rongy, S. Solis-Cohen, B. Crohn, R. L. Kahn, J. Bullowa, D. Macht, etc.

In the section on Sigmund Freud, Dr. A. A. Brill presents a masterful exposition of "Freud's Metapsychology," and Dr. Philip Lehrman recounts much biographical detail and the story of Freud's earliest researches.

Another section of *Harofe Haivri* presents from time to time, mediaeval medical treatises, heretofore unpublished and interesting both from a historic and scientific viewpoint. In this volume a manuscript entitled "Hygiene of the Body" is included; it is written in verse by the famous Yehuda al-Charisi, who lived in Spain during the 12th Century.

Under the heading of "Personalia," biographical sketches of the foremost late physicians have been presented and their contributions to medicine reviewed, such as: Koplik, Frauenthal, Maurice Fishberg, Beer, Paul Ehrlich, Teschner, Jos. Goldberger, A. Jacobi, S. J. Meltzer, J. Solis-Cohen, Marcus Rothschild, Mendel, and others. In this issue a sketch of the life and work of the great medical figure, August Wassermann, is given.

In addition to an English-Hebrew medical dictionary, the original articles are summarized in English, to make them available to those who are unable to read Hebrew.

MEETING REPORT

Transactions of the regular meeting of the Massachusetts Society for Research in Psychiatry held at the McLean Hospital, Waverley, Mass., on January 9, 1941.

The following three papers were presented at the meeting:

"A Comparison and Consideration of Observations on Convulsive Shocks Induced with Chemical and Physical Agents in the Treatment of Mental Illness"

— by —

Doctor Wolfgang Sulzbach and Dr. Kenneth J. Tillotson, McLean Hospital

Under emphasis of the preliminary character of the report (as read at the meeting of the Massachusetts Society for Research in Psychiatry on January 9, 1941, at the McLean Hospital, Waverley, Massachusetts) certain experiences with three distinct methods of inducing convulsions in an effort to instigate improving changes in various forms of psychoses were reviewed.

The relative value of these procedures from technical and clinical aspects was considered in reference to observations in a small group of cases.

The essential data was tentatively discriminated in a brief summarization.

Final publication has been reserved until completion of several specific investigations permits a precise interpretation of all data.

"The Effect of 9 per cent Oxygen Inhalation on Normal and Schizophrenic Subjects"

— by —

Doctor W. L. Holt, Jr.
Worcester State Hospital

It is the author's purpose to learn whether the nervous system of schizophrenic patients differs from that of non-psychotic subjects when both are placed under the stress of moderate anoxia, 9 per cent oxygen inhaled for 20 minutes. A review of the literature disclosed that no group of schizophrenic patients, subjected to the same conditions of anoxemia as a group of non-psychotic controls, had been studied at all comprehensively. All subjects accepted for test were males between 18 and 45 years of age and were free of detectable heart disease, arteriosclerosis or disease of the chest. Schizophrenic subjects had been under medical observation for 1 to 5 years. Eight schizophrenics and six control non-psychotic subjects were given 9 per cent oxygen in 91 per cent nitrogen by face mask, with no rebreathing, for 20 minutes. Four

neurological examinations were made at 5 minute intervals before the anoxemia and served as a control for the four neurological examinations made during the inhalation of 9 per cent oxygen. Observations were made on the pulse rate, blood pressure, respiratory rate, total pulmonary ventilation, electrocardiogram and electroencephalograms and the psychological state. The vital responses were more variable and more often faulty in the schizophrenic subjects. Neurological abnormalities were brought out in both groups of subjects but were more frequent among the schizophrenic patients.

"The Physiological Effects of Low Temperature in Humans and its Application in the Treatment of the Schizophrenias"

— by —

Doctor John H. Talbott and Dr. Kenneth J. Tillotson, McLean Hospital

(This paper is to be published in a future issue of *Diseases of the Nervous System.)*

GLENSIDE

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